

## CLAIMS

What is claimed is:

1. An apparatus, comprising:  
  
an ATM switch core having an input coupled to an ingress AAL2 switch engine and an output coupled to an egress AAL2 switch engine, said ingress AAL2 switch engine having a first look-up table that can store:
  - 1) an identification label for an AAL2 virtual channel through said ATM switch core, and
  - 2) an AAL2 egress connection identification label for an ingress AAL2 packet to be carried by said AAL2 virtual channel,said egress AAL2 switch engine having a second look-up table that can store an egress CID and egress VPI/VCI for said AAL2 egress connection identification label.
2. The apparatus of claim 1 wherein said first look-up table can store input look-up information that comprises an ingress CID of said ingress AAL2 packet.
3. The apparatus of claim 2 wherein said input look-up information further comprises a VPI/VCI of an ATM cell that carries said ingress AAL2 packet.

4. The apparatus of claim 2 wherein said input look-up information further comprises an ingress port number of an ATM cell that carries said AAL2 packet.
5. The apparatus of claim 1 further comprising an ATM physical layer device coupled to an input of said ingress AAL2 switch engine, said ATM physical layer device for providing ATM cells received from one or more ingress network lines.
6. The apparatus of claim 5 wherein at least one of said one or more ingress network lines is an OC-n based network line.
7. The apparatus of claim 1 further comprising an ATM physical layer device coupled to an output of said egress AAL2 switch engine, said ATM physical layer device for transmitting ATM cells over one or more egress network lines.
8. The apparatus of claim 7 wherein at least one of said one or more egress network lines is an OC-n based network line.
9. The apparatus of claim 1 wherein at least one of said switch engines at least partially comprises a processor that runs software.

10. The apparatus of claim 1 wherein said AAL2 packet further comprises a CPS AAL2 packet.

11. The apparatus of claim 1 wherein said AAL2 packet further comprises a SSCS AAL2 packet.

12. A method, comprising:

- a) producing an AAL2 virtual channel identification label and an AAL2 egress connection identification label in response to an ingress AAL2 packet CID and VPI/VCI;
- b) forwarding at least said ingress AAL2 packet payload and said AAL2 egress connection identification label over an AAL2 virtual channel established within an ATM switch core, said AAL2 virtual channel identified by said AAL2 virtual channel identification label; and
- c) producing an egress AAL2 packet CID and VPI/VCI in response to said AAL2 egress connection identification label, said egress AAL2 packet carrying said ingress AAL2 packet payload.

13. The method of claim 12 further comprising reassembling ingress ATM cells into said ingress AAL2 packet.

14. The method of claim 13 further comprising receiving said ingress ATM cells from a network line.

15. The method of claim 14 wherein said network line is an OC-n based network line.

16. The method of claim 12 wherein said producing an AAL2 virtual channel identification label and an AAL2 egress connection label further comprises performing a lookup based upon said ingress packet CID and VPI/VCI.

17. The method of claim 12 wherein said producing an egress AAL2 packet CID and VPI/VCI further comprises performing a lookup based upon said AAL2 egress connection identification label.

18. The method of claim 12 further comprising segmenting said egress AAL2 packet into egress ATM cells, said egress ATM cells having said egress packet VPI/VCI.

19. The method of claim 18 further comprising transmitting said egress ATM cells over an egress network line.

20. The method of claim 19 wherein said network line is an OC-n based network line.

21. The method of claim 12 wherein either said ingress AAL2 packet or said egress AAL2 packet is a CPS AAL2 packet.

22. The method of claim 12 wherein either said ingress AAL2 packet or said egress AAL2 packet is a SSCS AAL2 packet.

23. An apparatus, comprising:

- a) means for producing an AAL2 virtual channel identification label and an AAL2 egress connection identification label in response to an ingress AAL2 packet CID and VPI/VCI;
- b) means for forwarding at least said ingress AAL2 packet payload and said AAL2 egress connection identification label over an AAL2 virtual channel established within an ATM switch core, said AAL2 virtual channel identified by said AAL2 virtual channel identification label; and
- c) means for producing an egress AAL2 packet CID and VPI/VCI in response to said AAL2 egress connection identification label, said egress AAL2 packet carrying said ingress AAL2 packet payload.

24. The apparatus of claim 23 further comprising means for reassembling ingress ATM cells into said ingress AAL2 packet.

25. The apparatus of claim 24 further comprising means for receiving said ingress ATM cells from a network line.

26. The apparatus of claim 25 wherein said network line is an OC-n based network line.

27. The apparatus of claim 23 further comprising means for segmenting said egress AAL2 packet into egress ATM cells, said egress ATM cells having said egress packet VPI/VC.

28. The apparatus of claim 27 further comprising means for transmitting said egress ATM cells over an egress network line.

29. The apparatus of claim 28 wherein said network line is an OC-n based network line.

30. The apparatus of claim 23 wherein either said ingress AAL2 packet or said egress AAL2 packet is a CPS AAL2 packet.

31. The apparatus of claim 23 wherein either said ingress AAL2 packet or said egress AAL2 packet is a SSCS AAL2 packet.

32. A machine readable medium having stored thereon sequences of instructions, which, when executed by a digital processing system cause said digital processing system to perform a method, said method comprising:

producing an AAL2 virtual channel identification label and an AAL2 egress connection identification label in response to an ingress AAL2 packet CID and VPI/VCI so that at least said ingress AAL2 packet payload and said AAL2 egress connection identification label can be forwarded over an AAL2 virtual channel established within an ATM switch core, said AAL2 virtual channel identified by said AAL2 virtual channel identification label.

33. A machine readable medium having stored thereon sequences of instructions, which, when executed by a digital processing system cause said digital processing system to perform a method, said method comprising:

producing an egress AAL2 packet CID and VPI/VCI in response to an AAL2 egress connection identification label, said AAL2 egress connection identification label associated forwarded over an ATM switch core with at least a portion of an AAL2 packet payload,

said egress AAL2 packet carrying said ingress AAL2 packet payload.